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Claims

1. A method for storing a plurality of blocks representing portions of a frame, said method comprising:

storing the plurality of blocks in a plurality of banks, wherein every two vertically adjacent blocks are stored in different ones of the banks from one another.

2. The method of claim 1, wherein every two horizontally adjacent blocks are stored in different ones of the banks from one another.

3. The method of claim 1, wherein every two diagonally adjacent blocks are stored in different ones of the banks from one of another.

④ A method for storing a plurality of rows of blocks, said method comprising:

storing each of a first sequence of blocks of a first row in particular ones of a plurality of banks according to a particular order, starting at a first and then a second of the plurality of banks;

storing each of the blocks of a next row in particular ones of the plurality of banks according to the particular order, starting at a third and then a fourth of the plurality of banks.

5. The method of claim 4, wherein the particular order comprises repeating the first bank followed by the second bank, followed by the third bank, followed by the fourth bank.

6. The method of claim 4, wherein the first sequence and the second sequence comprise a first block and a second block, through a last macroblock, and wherein storing each of the first sequence further comprises:

storing the first macroblock in the first sequence in the first bank;

storing the second macroblock in the first sequence in the second bank; and

storing the last macroblock of the first sequence in a particular one of the plurality of banks according to the particular order;

the method further comprising:

stuffing each bank starting from the bank following the particular one of the plurality of banks to the second bank in the particular order.

7. The method of claim 6, wherein stuffing further comprises:

storing a blank block.

8. A method for decoding a macroblock, said method comprising:

displacing a position associated with the macroblock with one or more motion vectors, resulting in a displaced region for a reference frame;

retrieving a first macroblock of the reference frame that overlaps the displaced region;

retrieving a second macroblock of the reference frame that overlaps the displaced region, while retrieving the first macroblock;

retrieving a third macroblock of the reference frame that overlaps the displaced region, while retrieving the first macroblock; and

retrieving a fourth macroblock of the reference frame that overlaps the displaced region, while retrieving the first macroblock.

9. The method of claim 8 wherein the first macroblock is retrieved from a first bank, the second macroblock is retrieved from a second bank, the third macroblock is retrieved from a third bank, and the fourth macroblock is retrieved from a fourth bank.

10. The method of claim 8, further comprising:

applying an offset to the displaced region for the reference frame.

11. A system for storing a plurality of blocks representing portions of a frame, said system comprising:

a plurality of banks for storing the plurality of blocks, wherein every two vertically adjacent blocks are stored in different ones of the banks from one another; and

a video decoder for writing the plurality of blocks to the plurality of banks

12. The system of claim 11, wherein every two horizontally adjacent blocks are stored in different ones of the banks from one another.

13. The system of claim 11, wherein every two diagonally adjacent blocks are stored in different ones of the banks from one of another.

14. A system for storing a plurality of rows of blocks, said system comprising:

a plurality of banks for storing each of a first sequence of blocks of a first row in particular ones of a plurality of banks, and for storing each of the blocks of a next row in particular ones of the plurality of banks; and

a video decoder for writing the first sequence of blocks according to a particular order, starting at a first and then a second of the plurality of banks and writing each of the blocks of the next row according to the particular order, starting at a third and then a fourth of the plurality of banks.

15. The system of claim 14, wherein the particular order comprises repeating the first bank followed by the second bank, followed by the third bank, followed by the fourth bank.

16. The system of claim 14, wherein the first sequence and the second sequence comprise a first block and a second block, through a last macroblock, the plurality of banks storing the first macroblock in the first sequence in the first bank and storing the second macroblock in the first sequence in the second bank and storing the last macroblock of the first sequence in a particular one of the plurality of banks according to the particular order, and wherein the video decoder stuffs each bank starting from the bank following the particular one of the plurality of banks to the second bank in the particular order.

17. The system of claim 16, wherein the video decoder stuffs a bank by storing a blank block.

18. A circuit for decoding a macroblock, said circuit comprising:

a controller; and

an instruction memory operably connected to the controller, wherein the instruction memory stores executable instructions, the execution of the executable instructions by the controller causing:

displacing a position associated with the macroblock with one or more motion vectors, resulting in a displaced region for a reference frame;

retrieving a first macroblock of the reference frame that overlaps the displaced region;

retrieving a second macroblock of the reference frame that overlaps the displaced region, while retrieving the first macroblock;

retrieving a third macroblock of the reference frame that overlaps the displaced region, while retrieving the first macroblock; and

retrieving a fourth macroblock of the reference frame that overlaps the displaced region, while retrieving the first macroblock.

19. The circuit of claim 18 wherein the first macroblock is retrieved from a first bank, the second macroblock is retrieved from a second bank, the third macroblock is retrieved from a third bank, and the fourth macroblock is retrieved from a fourth bank.

20. The circuit of claim 18, wherein execution of the executable instructions further causes:

applying an offset to the displaced region for the reference frame.